

WHAT IS CLAIMED IS:

1. An image processing apparatus connected to at least an external controller via an external bus, comprising:

- 5 first image processing means for processing input image data;
- image storage means for storing image data processed by said first image processing means;
- second image processing means for processing image
- 10 data read from said image storage means;
- output control means for outputting image data processed by said second image processing means via the external bus;
- preservation means for preserving the result of
- 15 processing on the image data by said second processing means, in correspondence with a predetermined amount of image data output by said output control means; and
- pseudo master means for starting and controlling a preservation operation by said preservation means, in
- 20 correspondence with the predetermined amount of image data output by said output control means.

2. The image processing apparatus according to claim 1, wherein one or both of said output control means and
- 25 said pseudo master means start output processing on subsequent image data stored in said image storage means, in correspondence with the predetermined amount of the

image data output by said output control means.

3. The image processing apparatus according to claim
1, wherein said first image processing means generates
5 and processes plural items of image data from one item
of the input image data,

wherein said preservation means preserves the
result of image data processing corresponding to each of
the plural items of image data generated and processed
10 from one item of the input image data.

4. The image processing apparatus according to claim
3, wherein the predetermined amount of output of said
image data by said output control means corresponds to
15 transfer of image data of one of the plural items of
image data generated and processed from one item of the
input image data, for one frame, to the external bus.

5. The image processing apparatus according to claim
20 3, wherein said output control means issues an interrupt
request to the external controller when transfer of all
the plural items of image data generated and processed
from one item of the input image data to the external
bus is completed,

25 wherein the external controller performs reading
of the result of processing preserved in said
preservation means and setting for image processing on

the next frame, in correspondence with the interrupt request.

6. The image processing apparatus according to claim
5 1, further comprising arbitration means for arbitration
between an access request from the external controller
and the preservation operation of the result of
processing by said pseudo master means and said
preservation means.

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7. The image processing apparatus according to claim
1, wherein said first image processing means includes
first processing means for generating first image data
and second processing means for generating second image
15 data.

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8. The image processing apparatus according to claim
7, wherein the first image data has a resolution higher
than that of the second image data.

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9. The image processing apparatus according to claim
1, wherein said first image processing means performs
filter processing on the image data, while said second
image processing means performs compression coding
25 processing on the image data.

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10. The image processing apparatus according to claim

9, wherein said compression coding processing is coding processing in conformity with JPEG or JPEG 2000 coding method.

- 5 11. An image processing method in an image processing apparatus connected to at least an external controller via an external bus, comprising:

a first image processing step of processing input image data;

- 10 an image storage step of storing image data processed at said first image processing step into an image memory;

a second image processing step of processing image data read from the image memory;

- 15 an output control step of outputting image data processed at said second image processing step via the external bus;

- a preservation step of preserving the result of processing on the image data processed at said second processing step, in correspondence with a predetermined amount of image data output at said output control step;
- 20 and

- a pseudo master step of starting and controlling a preservation operation at said preservation step, in correspondence with the predetermined amount of image data output at said output control step.
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12. The image processing method according to claim 11,
wherein at one or both of said output control step and
said pseudo master step, output processing on subsequent
image data stored at said image storage step is started,
5 in correspondence with the predetermined amount of image
data output at said output control step.

13. The image processing method according to claim 11,
wherein at said first image processing step, plural
10 items of image data are internally generated and
processed from one item of the input image data,
wherein at said preservation step, the result of
image data processing, corresponding to each of the
plural items of image data generated and processed from
15 one item of the input image data, is preserved.

14. The image processing method according to claim 13,
wherein the predetermined amount of the image data
output at said output control step corresponds to
20 transfer of image data of one of the plural items of
image data generated and processed from one item of the
input image data, for one frame, to the external bus.

15. The image processing method according to claim 13,
25 wherein at said output control step, an interrupt
request is issued to the external controller, when
transfer of all the plural items of image data generated

and processed from one item of the input image data to the external bus is completed,

wherein the external controller performs reading of the result of processing preserved at said

- 5 preservation step and setting for image processing on the next frame, in correspondence with the interrupt request.

16. The image processing method according to claim 11,
10 further comprising an arbitration step of performing arbitration between an access request from the external controller and said preservation operation of the result of processing at said pseudo master step and said preservation step.

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17. A storage medium holding computer-readable program code for executing the image processing method in claim 11.

- 20 18. A program for executing the image processing method in claim 11 by a computer.

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